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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/362,080	07/27/1999	HENRY M. D'SOUZA	27757-403	6404

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EXAMINER

EISEN, ALEXANDER

ART UNIT

PAPER NUMBER

2674

22

DATE MAILED: 04/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/362,080

Applicant(s)

D'SOUZA ET AL.

Examiner

Alexander Eisen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 35-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 35-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7 February 2003 has been entered.
2. Claims 35-51 are pending in present application.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 35-39, 42-46, 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerigan et al., ("Kerigan"), US 5,691,741 in view of Narveson et al., ("Narveson"), US 4,386,345.

With respect to claims 35 and 49 Kerigan discloses a color display system (FIG. 1) comprising a color display device 130 that stores display identification data including information fully describing the display device and allowing the computer system to configure display adapter so as to provide the best possible signal match between adapter and the display device, color characteristics including (column 6, lines 5-14).

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With regard to claim 42 Kerigan additionally teaches a memory 300 for storing the display identification data.

Kerigan further teaches that computer system is adapted to load display identification data from the color display device and create a video signal based on that data (FIG. 3; column 6, lines 18-32; column 8, lines 46-50).

Kerigan does not specify explicitly that the identification data, which comprises among other parameters data for providing the best possible signal match between the adapter and the display device color signals R,G and B, is color correction data corresponding to an input-output color characteristic associated with the color display device.

Narveson teaches a color cathode ray tube having a memory, "CRT personality PROM", containing the color/brightness characteristics of this particular CRT, input-output transfer characteristic included, which have been prepared during the CRT assembly (see abstract, col. 4, lines 3-38; col.4, line 57 – col.5, line 23).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the teaching of Narveson in the display signals matching device and method of Kerigan, i.e. to store the identification data associated with the display into the memory of the display, as taught by both Kerigan and Narveson, the data being color correction data corresponding to the input-output color characteristic as taught by Narveson, because it would allow to maintain the best possible RGB signal match required by Kerigan and also to maintain a given color hue or chromaticity over the entire brightness range of the display (Narveson; column 4, lines 39-53).

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As to claims 36, 43 and 50, the computer system is adapted to send or deliver the video signal to the color display device (Kerigan; FIGS. 1-3 show delivery of color video signals from the adapter 70 located in the computer system to the color display device 130).

As to claims 37-39 and 44-46, Narverson teaches storing two methods for storing display correction data into a memory, look-up tables for color correction data (column 5, lines 24-56) and polynomial coefficients for adjusting an electron beam focus in accordance with the reference brightness in the tube's personality PROM (column 9, lines 24-32).

It would have been obvious to one of ordinary skill in the art at the time when the invention was made to use both methods or any one of them to represent the color correction data, because it would be readily recognized by those ordinary skilled in the art that both methods are suitable for the task and will provide the adequate correction without bringing about an unexpected result, and thus these methods simply represent an alternative choice.

5. Claims 41 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerigan in view of Narveson and further in view of Greene et al., ("Greene"), US 6,243,059.

Kerigan discloses a color display system comprising a color display device that stores display identification data and Narveson teaches a color cathode ray tube having a memory, "CRT personality PROM", containing the color/brightness characteristics of this particular CRT, input-output transfer characteristic included.

None of the above teaches using color correction data in the VGA or an LCD flat type of the display.

Greene teaches a color correction method for electronic displays including flat panel displays, such as LCD (53'), and video graphic array type VGA (FIG. 8, column 4, lines 8-44;

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column 16, lines 29-42), wherein equation coefficients are stored in a memory(42') and used for calculating corrected color signals before outputting the signals to a display controller (52).

It would have been obvious to one of ordinary skill in the art at the time of the invention that the method of providing color correction data to the computer system so that the computer system would be able to create the corrected video signals to be applied to the display, taught by Kerigan-Narveson combination, can be applied to the flat panel LCD display of Greene, because it would provide for correcting the color non-uniformities of the latter with any type of computer system, given that the correction data is provided in the display memory embedded with the display.

6. Claims 40, 47 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerigan in view of Narveson and further in view of McManus and further in view of Minato (references of record).

Kerigan discloses a color display system comprising a color display device that stores display identification data and Narveson teaches a color cathode ray tube having a memory, "CRT personality PROM", containing the color/brightness characteristics of this particular CRT, input-output transfer characteristic included.

None of the above teaches that the plurality of coefficients can be utilized in a third order polynomial equation, which predicts the brightness of the first color within 0.3 foot-lamberts for the color display device.

McManus discloses a system for computing polynomial equation coefficients to represent an input-output color characteristic of a color display device. McManus does not disclose expressly that a third order polynomial equation is used for representation, which predicts the

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brightness to within 0.3 foot-Lamberts for each input signal. McManus rather teaches that acceptable curve fitting results are obtained when the degree of the polynomial is in order from 5 to 7.

Minato teaches a luminance characteristic curves for a color display that can be presented by a polynomial equations of a third order (see FIG. 1 and equation (19) in column 5, line 10.

It would have been obvious to one of ordinary skill in the art at the time of the invention that color brightness characteristic for each input signal can be presented by a plurality of polynomial coefficients as taught by McManus, which can be utilized in a third order polynomial equation as taught by Minato, and that this order can be arbitrarily picked up by a designer depending on required accuracy, 0.3 fL included. It would be obvious to those of ordinary skill in the art that chosen range of 0.3 fL simply represents an alternative design choice and as such cannot contain a patentable subject matter, because any other range, for example 0.2 fL or 0.4 fL would work, and the only difference between the two would be in precision and quality of the correction, which would be set arbitrarily as a goal before implementation. It would be in ability of those who are of ordinary skill in the art to set and choose the prediction interval as required. As to the measure of the brightness, Narveson teaches gamma curves (FIGS. 3a and b) wherein the brightness is presented in foot lamberts.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Clifton et al., US 6,388,648 B1, discloses a color matching technique for LCD projector having correction coefficients stored in a memory.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Eisen whose telephone number is **(703) 306-2988**.

The examiner can normally be reached on M-F (9:00 a.m - 4:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe can be reached on **(703) 305-4709**.

Any response to this action should be **mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or **faxed to:**

(703) 872-9314 (for Technology Center 2600 only).

Hand-delivered responses should be **brought to:** Crystal Park Two, 2121 Crystal Drive, Arlington, Virginia, Sixth Floor Receptionist.

Any inquiry of a general nature or relating to the status of this application or proceeding should be **directed to:** Technology Center 2600 Customer Service Office, whose telephone number is **(703) 306-0377**.



Alexander Eisen
April 3, 2003